

Honoring the past: A prologue for the future of neuroscience nursing

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The 1870s marked the first report of neurological nursing. Sir Victor Horsley, a neurosurgeon at the National Hospital in Queens's Square London, invited nurses to observe neurosurgery to better care for these patients postoperatively. The National Hospital in Queens's Square quickly became a recognized center for neurological care and was the first neurological institute in the world. Concurrently, nurses learned from Dr. Charcot at Salpetriere in Paris. In both cases, the education was informal through physicians imparting information, but nurses began to learn principles of neuroscience patient care. Europe became the hub of modern medicine serving as centers for medical education and breakthroughs attracting the best renowned physicians. It was also a time when neurology and psychiatry were closely intertwined as one science, an entanglement that would take many decades to separate into individual specialties.

The development of neurosurgery was instrumental in fostering neurological nursing's development. Physicians trained in Europe returned to the United States with new neurological knowledge, and became recognized leaders especially in neurosurgery. As neurosurgery and neurology developed, it became clear that specially trained nurses were needed to care for these patients. Neurological nursing began to emerge as a subspecialty in the United States with informal lectures by physicians gradually emerging into more formalized education. In the early 1900s, Dr. Charles Mills lectured to nurses about the care of patients with neurological disease at the Philadelphia General Hospital. The course content became a book entitled *The Nursing and Care of the Nervous and the Insane* published in 1889. Dr. Mills wrote, "in no class

of cases is it more important for a nurse, caretaker, or companion to have good principles of action and clear notions of practice, than among patients suffering from nervous or mental afflictions." Technology in the form of invasive blood pressure monitoring, let alone ICP monitoring did not exist. Consequently, nursing care relied on close observation of patients and changes in the level of consciousness (LOC), the most sensitive neurological indicator of change and other subtle changes, to be communicated to the physician.

The New York Neurological Institute was founded in 1909; Amy Hilliard became the first superintendent of nurses in 1910. She organized the first postgraduate course in the care of patients with nervous system diseases for nurses taught by physicians. Papers, based on these lectures, were published in the *American Journal of Nursing* in 1911; other publications followed. In 1910, Dr. Harvey Cushing performed the first transspenoidal approach for pituitary tumors. In 1923, neurosurgeon, Dr. Dandy, opened the first specialized care unit for postoperative neurosurgical care at Johns Hopkins Hospital in Baltimore, Maryland. Neurological nursing took root as the subspecialties of neurology and neurosurgery continued to develop fueled by the needs of soldiers from the World Wars. Both

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physicians and nurses recognized the need for informed nurses to care for neurological patients.

In the 1960s, a few universities began to offer master's degrees in neurological and neurosurgical nursing. Critical care units began to appear in the 1960s first as coronary care units. It was not until the 1970s that neurological intensive care units (NICU) were established. Many landmarks followed for neuroscience nurses: American Association of Neurological Nurses (AANN) founded (1968) and name changed to American Association of Neuroscience Nurses (1984); World Federation of Neuroscience Nurses founded (1969); first issue of *Journal of Neurosurgical Nursing* (1969); first neurological certification examination (1978); and first stroke certification examination (2012).

"What's past is prologue" (Shakespeare, *The Tempest*). What is sustained for the future is the knowledge, keen observational skills, and critical thinking skill of the neuroscience nurses that established the subspecialty of neuroscience nursing. Invasive monitoring including ICP

monitors, imaging diagnostics (computed tomography, magnetic resonance imaging), and NICUs were not part of the landscape until the 1970s. Yet, no substitute has been found to replace the observational skills and caring attitudes of neuroscience nurses who approach patients holistically. The technologies, albeit amazing, are tools, not replacements. Perhaps the greatest addition occurring is the development of high level communication skills by well-educated nurses confident in their knowledge, clinical skills, and roles as equal partners with other health professionals in collaborative interprofessional team practice, which results in safer and better patient outcomes. The evolving roles of neuroscience nurses will continue with a future that includes more, smaller, and less invasive technology/nanotechnology, individualized care based on individual genomic profiles, and pharmacogenomics designed to match patient responsiveness to drug therapies. However, the fundamental core of neuroscience nursing values on competencies of observations, clinical reasoning, intervention, compassion, and caring are enduring now and in the future.